

What is a HOT lane?

High Occupancy Toll (HOT) lanes are lanes that are open to vanpools, HOV, transit, and toll-paying solo drivers. In addition to preserving priority status for transit, HOT lanes allow solo-drivers to use the surplus capacity in the lanes by paying a toll. Tolls for HOT lanes are set to assure that these lanes keep flowing even when the regular lanes are congested.

HOT lanes can be built for this purpose or converted high occupancy vehicle (HOV) lanes. The SR 167 HOT lane would use an electronic toll collection system. No tollbooths would be necessary.

HOT lanes have successfully been implemented on State Route 91 (Orange County) and Interstate 15 (San Diego) in California, and on Interstate 10 in Houston, Texas. Minnesota has just announced a plan to implement tolls on I-394 by December 2004.

What are the potential benefits of HOT lanes?

- Preserve priority status for transit and vanpools.
- Improve traffic flow for motorists in all lanes of traffic
- Allow any motorist to buy-in when there is space available in the HOT lanes
- Move more people and vehicles through a HOT lane corridor

Will the pilot project HOT lanes pay for themselves?

It is estimated that the capital cost to convert the existing HOV lane could be recovered in 11 years. However, the pilot project is only expected to last two to three years. WSDOT will seek Federal funds to help pay for the project.

Recommendation

It is recommended that the WSDOT pursue the design and implementation of the SR 167 HOT Lane Pilot Project.

For more information

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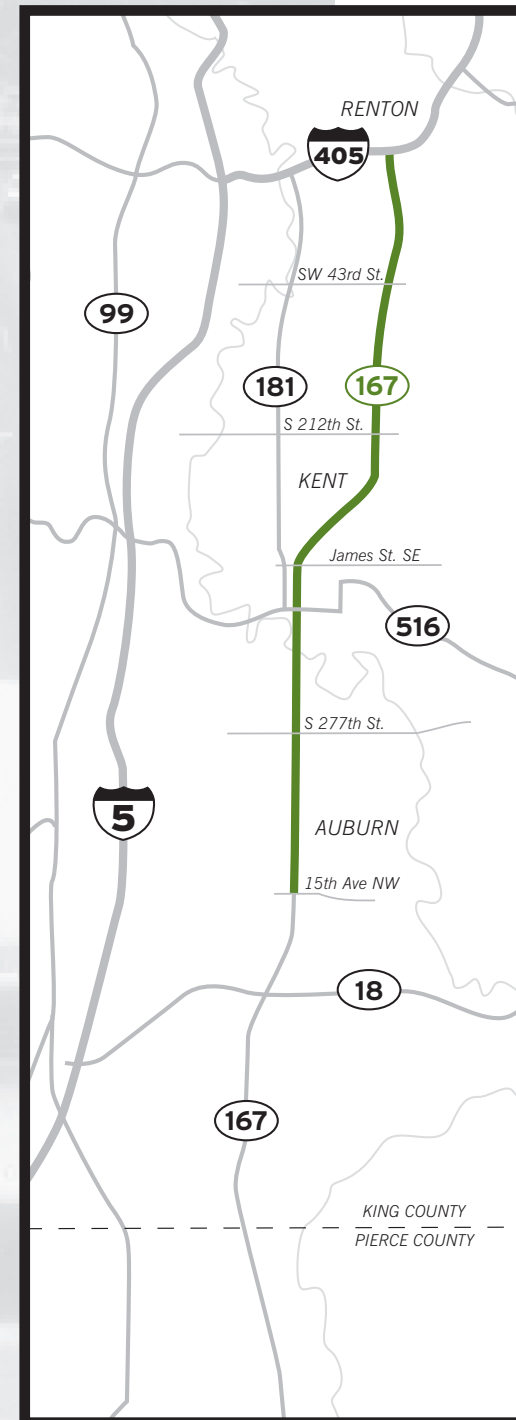
How much will the pilot project cost?

A preliminary estimate of the costs to convert the SR 167 HOV lanes to HOT lanes is approximately \$14 million for:

- Construction
- Pavement markings and signage;
- Toll collection equipment
- Maintain traffic during construction;

These costs do not include front office/customer service and support costs (shared with Tacoma Narrows Bridge) or costs for toll tags (approximately \$30 per vehicle).

WSDOT will seek federal funds to help pay for the project.



SR 167 High Occupancy Toll Lane Project: Improving Transit and Freeway Operations

In January of 2003, as a result of WSDOT's most extensive High Occupancy Vehicle lane evaluation, the Transportation Commission adopted a resolution directing staff to evaluate the feasibility and potential benefit of converting one or more HOV lanes to High Occupancy Toll (HOT) lanes.

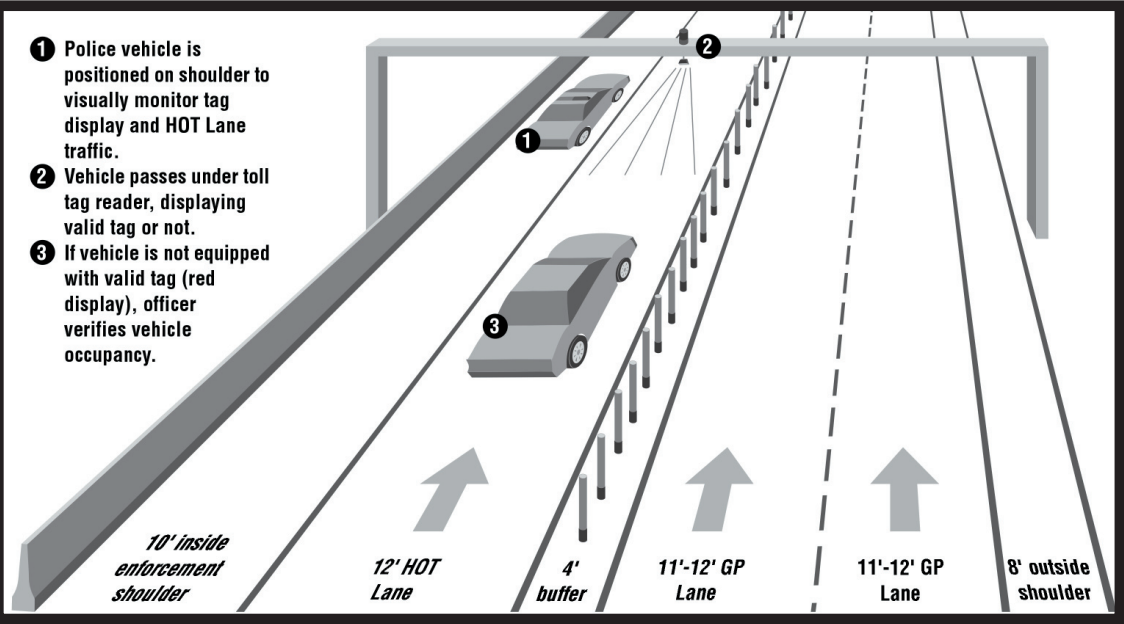
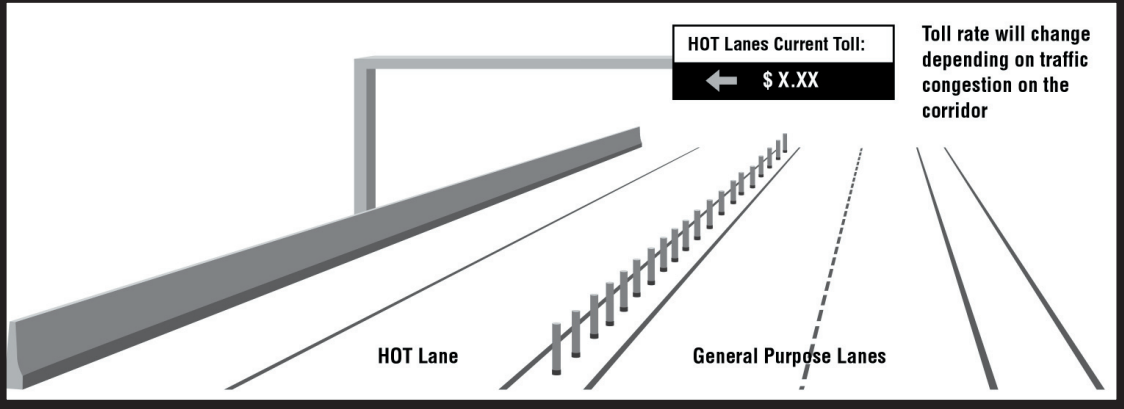
The reasoning behind this is to preserve long-term transit reliability and improve traffic flow on Puget Sound area freeways. The HOV evaluation found that most of the carpool lanes are full during peak commute times, but have room in them during mid-day hours. Maximizing use of the carpool lanes could improve traffic flow in all lanes during certain hours.

After reviewing five options, WSDOT chose SR 167 as the best candidate to implement a HOT lane pilot project for the following reasons: it is congested in the peak direction, it has available capacity in the HOV lane, and there is room to make the needed improvements to the HOV lane.

An initial analysis of SR 167 found that if we convert the HOV lane to a HOT lane we could expect more vehicles to move through the corridor than currently do, without impacting speed or travel time reliability for transit and carpools.

If approved and funded, the SR 167 HOT Lane Pilot Project would be the first HOT lane in the state and it would provide more data to help determine if HOT lanes could be used in other locations, what modifications would be needed and the level of public acceptance.

Implementing the project would take about 20 months from the time it is approved and funded. Some legislative changes will be required to grant the Transportation Commission the authority to implement the pilot project. Following the opening of the HOT lanes, a detailed monitoring and evaluation period would begin to determine the overall success of the pilot.



What is the guiding philosophy?

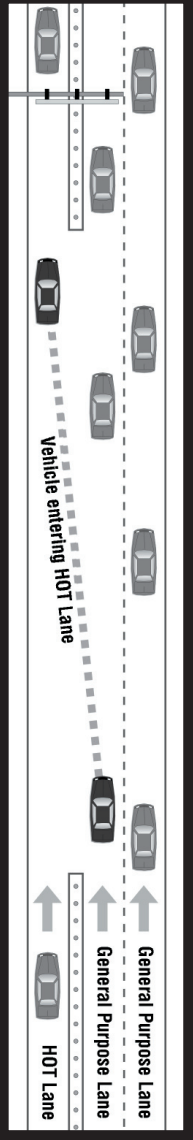
- Maintain transit and HOV speed and reliability
- Improve traffic flow in all lanes
- Manage congestion
- Collect revenue to pay for HOT lane operations

How does electronic toll collection work?

For the pilot project, HOT lane users will pay a single entry fee —regardless of where they enter and leave the HOT lane. Toll collection on SR 167 would include an electronic toll collection system, comprising vehicle-mounted transponders, over-roadway transponder readers and dynamic toll rate signs throughout the corridor. No tollbooths are necessary. Opening year toll rates are estimated between 60 cents and \$1.20. Toll rates are based on traffic volumes. The lower the congestion, the lower the toll. The SR 167 HOT lanes would remain free of charge for transit, vanpools and carpools.

What will they look like?

The HOT lane pilot project would be on the existing HOV lanes on nine miles of SR 167 between Renton and Auburn. Converting the existing HOV lanes to HOT lanes would involve restriping the lane to create a wider shoulder and a four- foot buffer space between the HOT lane and the general-use lanes.



How do transit vehicles use HOT lanes?

Transit can move into and out of the HOT lane without paying a toll, allowing buses to maintain speed and reliability.

How will people get in and out of HOT lanes?

Drivers can access the HOT lanes at the beginning of the HOT lanes or at several mid-point access locations: openings in the buffer that separates the HOT lane from the adjacent general-purpose lane. Shown at left.

The buffer opening will be a minimum of 1,000 feet long, allowing access both into and out of the HOT lane. A total of four access points northbound lane and three on the southbound HOT lanes would be used.

How do we assure safe operations?

Safe operation of HOT lanes will be addressed through:

- ten-foot inside shoulder (left of the HOT lane), wide enough for a disabled vehicle to pull over safely and for WSP enforcement
- continuous four-foot buffer separation with flexible “candle stick” tubes between the HOT lane and the adjacent general purpose lane
- outside shoulder (right of the general purpose lanes) wherever possible
- law enforcement and incident response teams to ensure the safe use of the HOT lane.

Key findings from the SR 167 HOT lane pilot project analysis

Converting the HOV lanes to HOT lanes on SR 167 from Renton to Auburn is expected to improve traffic flow by moving 13 percent more vehicles during the peak periods, while maintaining travel speeds and reliability for buses, carpools and vanpools in the HOV lanes.

The analysis was conducted for the peak travel direction during the peak periods for the year 2005 with the following results:

- SR 167 northbound a.m. peak hour:**
- Total number of vehicles traveling through the SR 167 corridor – all three lanes – increases 12 percent with HOT lanes.
 - Total number of vehicles traveling in the HOT lane increases 20 percent.
- SR 167 southbound p.m. peak hour:**
- Total number of vehicles traveling through the SR 167 corridor – all three lanes – increases 13 percent with HOT lanes.
 - Total number of vehicles traveling in the HOT lane increases 56 percent.

Despite the increase in the number of vehicles traveling through the corridor, the HOT lanes should not decrease the overall speed of the HOV/HOT lanes. Speeds in the general-purpose lanes should stay the same or improve up to 10 mph, depending on location and time of day.

- What ’s next?**
- Gain legislative approval
 - Identify funding
 - Complete additional analysis and design
 - Inform the public
 - Implementation

